

WHAT IS CLAIMED IS:

1. A method for preparing a hyaluronic acid derivative gel, comprising the following steps:
 - (a) mixing a hyaluronic acid, or its cationic salt, and a saccharide compound containing amine groups, and then agitating;
 - 5 (b) activating the carboxyl group of the hyaluronic acid or its cationic salt; and
 - (c) reacting the activated carboxyl group of the hyaluronic acid, or its cationic salt, with the amine group of the saccharide compound.
2. The method according to claim 1, wherein the cationic salt of hyaluronic acid is one or more selected from a group consisting of sodium hyaluronate, potassium hyaluronate, ammonium
10 hyaluronate, calcium hyaluronate, magnesium hyaluronate, and tetrabutylammonium hyaluronate.
3. The method according to claim 1, wherein the final reaction concentration of hyaluronic acid, or its cationic salt, is in the range of between 0.05 mg/ml and 50 mg/ml.
4. The method according to claim 1, wherein the average molecular weight of hyaluronic
15 acid, or its cationic salt, is in the range of between 500,000 and 5,000,000.
5. The method according to claim 1, wherein the amine group-containing saccharide compound is one or more selected from a group comprising of chitosan, chitosan derivatives, deacetylated hyaluronic acid, and deacetylated hyaluronic acid derivatives.
6. The method according to claim 1, wherein said saccharide compound containing amine
20 groups is added in such an amount that the ratio of the amino group to the carboxyl group of the hyaluronic acid is in the range of 0.01:1 to 100:1.

7. The method according to claim 1, wherein activation of the carboxyl groups is accomplished by adding one or more agents for activating carboxyl groups.
8. The method according to claim 7, wherein activation of the carboxyl groups is accomplished by adding one or more compounds, as a main agent, selected from a group
5 consisting of 1-alkyl-3-(3-dimethylaminopropyl) carbodiimides (alkyl herein is alkyl of 1-10 carbon atoms), 1-ethyl-3-(3-(trimethylammonio)propyl) carbodiimide ("ETC") and 1-cyclohexyl-3-(2-morpholinoethyl) carbodiimide ("CMC"), and one or more compounds, as an auxiliary agent, selected from a group consisting of 1-hydroxybenzotriazole ("HOBt"), 3,4-dihydro-3-hydroxy-4-oxo-1,2,3-benzotriazine ("HOObt"), 1-hydroxy-7-azabenzotriazole
10 ("HOAt"), *N*-hydroxysuccinimide (NHS), and sulfo-NHS.
9. The method according to claim 8, wherein the main activation agent is 1-ethyl-3-(3-dimethylaminopropyl) carbodiimide hydrochloride ("EDC") and the auxiliary activation agent is NHS.
10. The method according to claim 9, wherein EDC is added in a final reaction
15 concentration of between 0.01 mg/ml and 20 mg/ml.
11. The method according to claim 9, wherein NHS is added in a final reaction concentration of between 0.1 mg/ml and 20 mg/ml.
12. The process according to claim 1, further including a step of heat-treating the hyaluronic acid derivative gel produced in step (c) at 25°C to 130°C for 0.5 hour 144 hours.
- 20 13. A hyaluronic acid derivative gel produced by the method in one of any of claims 1 to 12.